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ABSTRACT

Asbestos in school buildings continues to threaten the future health of children. Because of prolonged exposure while their metabolism and activity levels are relatively high and their cellular development is relatively rapid, children and adolescents have a lifetime risk of developing asbestos-related diseases--such as asbestosis, mesothelioma, and cancer of several organs--a risk that is greater than that of adults who work with asbestos. Few local educational authorities can pay for the expensive work needed to correct the problem, and federal financial aid is not available. The health hazard persists; in particular, compliance of New York State school districts with federal and state statutes addressing the problem remains low. Crucial deficiencies in existing legislation exist: the federal Hazard Detection and Control Act fails to mandate removal or encapsulation of hazardous materials, and New York's School Asbestos Act fails to provide adequate protection to individuals occupying school buildings not used as public schools. Current approaches to solving the asbestos problem are clearly inadequate, and alternative solutions must be formulated and pursued promptly. A first step would provide federal funding for asbestos inspection and mandatory removal. A total solution might be attained through combining the funding of mandatory measures with the Environmental Protection Agency's new and aggressive policy of proposing and imposing heavy fines on noncomplying school districts. (RH)

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DANGER IN THE CLASSROOM: THE CONTINUING PROBLEM OF ASBESTOS IN THE PUBLIC SCHOOLS

By: Robert D. Lang*

Introduction

The recognition of the growing problem of asbestos in the public schools gives every indication of being one of the most pervasive issues in the area of toxic torts in the years to come. The health hazards resulting from exposure to asbestos is generating a host of wide ranging legal questions, many of which have not been finally determined, implicating such diverse areas of the law as products liability, sovereign immunity, insurance and bankruptcy. In the most part, the attention has been on asbestos as an occupational disease, specifically centering on the exposure of asbestos workers who inhaled the fibers.

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This article will outline another subject upon which increased focus may reasonably be expected: the significant health problems, whose full impact will not be felt for years to come, caused by the presence of asbestos materials in school buildings throughout the United States in general and in New York State in particular.

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Asbestos in School Buildings

The use of asbestos materials in school buildings resulted primarily from the application of asbestos fireproofing and insulating materials, commencing in large part after World War II and continuing into the past decade.[1/] Because asbestos fibers are fire resistant,[2/] possess good tensil strength, and feature above average thermal and electrical insulating properties, their use in buildings became widespread.[3/] In the context of public school building construction, asbestos has been widely used in cement products, plaster, fireproof textiles, vinyl floor tiles, thermal and acoustical insulation and sprayed material.[4/]

Not all such materials have been found to be hazardous. Hard asbestos-containing materials, such as vinyl floors, do not generally create exposure problems.[5/] Rather, it is soft or loosely bound materials, commonly referred to as "friable", which principally cause contamination and exposure problems.[6/] Friable materials crumble easily and release asbestos fibers into the air.[7/] Typically, friable materials have been sprayed or troweled onto surfaces for fireproofing, insulation, sandproofing or decoration.[8/] In school buildings, among the most likely places to find asbestos are sprayed-on or troweled-on ceilings, steel supported beams and columns, cafeteria walls and gymnasium ceilings.[9/]

The Recognized Health Hazard

Exposure to asbestos has been related to a number of serious medical disorders, among them a debilitating lung disease called asbestosis; a rare cancer of the chest and abdominal lining known as mesothelioma; and cancer of the lung, esophagus, stomach, colon and other organs.[10/] More specifically, asbestos-related diseases present particularly severe problems for school-age children because of the diseases' characteristic of manifesting itself after a long period of time.[11/] Because of this lengthy and uncertain period of latency, the exposure of children and adolescents to asbestos in school buildings results in a greater chance of contracting the disease during the course of their life.[12/] Other independent factors, including children's higher rate of metabolism and increased activity, as well as the more rapid development in cells during childhood, result in a greater risk for children than adults of developing cancer as a result of exposure to asbestos fibers.[13/] In addition, as a consequence of the long period between initial exposure and the appearance of disease, detection of asbestos-related diseases in children is difficult.[14/]

As contrasted with asbestos workers, school age children have a significantly greater lifetime risk in developing mesothelioma because of the age at which asbestos exposure occurs.[15/] According to the federal Environmental Protection

Agency ("EPA"), studies of workplace exposure indicate that, for persons exposed to asbestos for several years, the probability of developing mesothelioma remains constant for an initial period and then increases continuously with time from the onset of exposure.[16/] Thus, the EPA estimates that a child exposed from age 5 to 10 has at least ten times the risk of developing mesothelioma as does an adult exposed to the same level of asbestos between the ages of 35 and 40.[17/] Since children have a greater remaining lifespan than adults, the lifetime risk for school-age children is significantly greater than that for asbestos workers.[18/]

The duration of the exposure accentuates the problem. A large number of students may be exposed to asbestos fibers in each school building, six hours each day, five days each week, nine months each school year, for as many years as the child attends the school.[19/] The obvious public interest in the problem is accentuated by the mandatory state requirements for compulsory attendance for children of school age,[20/] thus requiring the presence of children in school buildings which may have health hazards.

The extent of the problem is considerable. By way of example, approximately 20 percent of the New York public schools and 10 percent of the New Jersey schools have been found to contain asbestos materials in student areas.[21/] Further, according to a January 1982 EPA report, "[s]ome 3,000,000 students and 270,000 teachers and other staff

regularly use public school buildings that have friable asbestos-containing materials that may contain such levels of contamination."[22/] The EPA concluded that "an estimate that 15,000,000 school occupants may be exposed to asbestos over the next 30 years."[23/]

In addition to children, there exists a substantial health risk to teachers,[24/] administrators and service personnel, all of who work in the school buildings. Thus, the Services Employees International Union, which represents the labor workforce in schools, has specifically requested that the EPA impose more stringent regulations to alleviate the school asbestos problem.[25/]

The full magnitude of the danger cannot be quantified because while the EPA is of the opinion that any level of exposure to asbestos involves some health risk, the exact degree of risk cannot be reliably estimated.[26/] In any circumstances, the potential health hazard is evident and obvious.

The Statutes

The New York State School Asbestos Safety Act of 1979 (the "School Asbestos Act")[27/] was enacted in recognition of the substantial amounts of asbestos materials used throughout New York school buildings. To combat the problem, the legislation formulated a state plan requiring the inspection and, where appropriate, the removal or encapsulation of asbestos material.[28/]

The New York State plan included the delegation of authority to the State Commissioner of Education to inform school districts of the health hazards of asbestos materials;[29] to provide scientific and technical information to school districts regarding asbestos;[30] to require local school districts to inspect and report on school buidlings concerning asbestos materials;[31] to maintain records regarding asbestos materials in school buildings;[32] to inform school districts of guidelines concerning asbestos health hazards;[33] to establish training programs for contractors and supervisory personnel engaged in the containment or removal of asbestos materials in schools;[34] to adopt minimum levels of asbestos air concentration in schools;[35] to apply for and accept grants and contributions for projects designed to indentify and eliminate health hazards caused by asbestos;[36] and to cooperate with state agencies and the state legislature in promulgating policies regarding the elimination of asbestos related health hazards.[37] The local school authorities were required to inspect and report on asbestos materials in schools;[38] to develop a plan for the containment or removal of hazardous asbestos materials and to estimate the cost thereof;[39] and to require contractors and supervisory personnel engaged in the containment or removal of asbestos materials to have received adequate training.[40]

In June 1980, Congress enacted the federal Asbestos School Hazard Detection and Control Act of 1980 (the "Hazard

Detection and Control Act").[41] The federal statute explicitly recognizes that "the presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of school children and school employees who are exposed to such materials."[42] Generally, the statute is designed to assist states and local educational agencies in ascertaining the extent of the danger to the health of school children and employees from asbestos products in schools; and to provide grants assisting the identification of friable asbestos and loans for the mitigation of asbestos hazards. More specifically, the Hazard Detection and Control Act directs the Department of Education to establish a task force to assist states and local educational agencies to ascertain the extent of the danger to the health of school children and employees from asbestos materials in schools;[43] requires states receiving administrative funds for any applicable program to prepare a plan describing the manner in which information relating to programs established under the statute shall be distributed to local educational agencies;[44] provides scientific, technical, and financial assistance to state educational agencies and local educational agencies to enable them to conduct an asbestos detection program to identify asbestos hazards in schools;[45] authorizes loans to local educational agencies for the mitigation of asbestos hazards which constitute an imminent hazard to the health and safety of school children and employees;[46] and assures that no employee of any local educational

agency suffers any disciplinary action as a result of calling attention to potential asbestos hazards which may exist in schools.[47/]

In recognition of the severity of the problem of asbestos in school buildings throughout New York State, particularly in the New York City public schools, the state's two Senators, Javitz and Moynihan, vigorously advocated the passage of the Hazard Detection and Control Act. Indeed, the Report of the Senate's Committee on Labor and Human Resources (the "Senate Report"), which drafted the Hazard Detection and Control Act, is replete with testimony detailing the magnitude of the asbestos hazard in New York school buildings.

For example, the Senate Report narrated that the Executive Director of School Buildings for the New York City Board of Education had determined that materials suspected of containing asbestos were noted in 556 of the Board's more than 1,400 facilities.[48/] Furthermore, the Senate Report related that approximately 28% of all New York State public school buildings contained sprayed-on asbestos material.[49/]

Congress' enactment of the Hazard Detection and Control Act was greatly facilitated by the active support of New York's Congressional delegation, particularly that of Senators Javitz and Moynihan and Representative Mario Biaggi.

In turn, it can be surmised that the severity of the hazards posed by asbestos in New York City and State public school buildings, as well as the growing public outcry over such health hazards posed to schoolchildren, figured prominently in the legislators' actions.

Statutory Compliance

Integral to the federal statutory scheme is the Asbestos Hazard Control Loan Program.[50/] By that program, Congress specifically empowered the Department of Education to administer a low-interest loan program to finance 50% of the cost for asbestos detection and control.[51/] Not only would the funding encourage compliance with inspection and remedial requirements, but the availability of money was recognized to be essential to achieve statutory compliance in less affluent school districts in view of the substantial costs to be incurred.[52/]

One of the obvious problems in complying with both the federal and state statutes is that the inspection and removal of asbestos material by skilled contractors and supervisory personnel is often an exceedingly expensive undertaking for local school districts.[53/] In an October 1983 report, the Department of Education estimated that 14,000 schools in the United States contain friable material that contain greater than one percent asbestos and require abatement. The Department of Education has calculated the average cost per school building to be approximately $100,000, for an estimated

total cost of $1.4 billion.[54/] In most instances, the 14,000 school buildings involved were either constructed or renovated between 1940 and 1978.[55/] In its November 1983 Progress Report on Asbestos Conditions in New York State Public Schools, the New York State Department of Education estimated a cost of approximately $3,600,000 to eliminate reported asbestos hazards in the New York public school buildings.[56/] Thus, school districts, many of which are already facing budgetary problems as a result of earlier cutbacks in state and federal funds, are confronted with stark alternatives of expending the necessary funds to comply with the statutes, ignoring the problem, or closing the doors of those schools which require corrective measures regarding the dangers of the asbestos.[57/] Significantly, these choices depend upon the availability of money, which is the source of the only realistic solution to the problem: funding for the essential corrective action.

Nor are these removal expenses the only "costs" involved. It is only a function of time and probabilities before individuals, contaminated by asbestos, commence private actions against school districts and allege that exposure to asbestos fibers while at school caused or contributed to their illness. These lawsuits must surmount several hurdles, including the problems of establising causation[58/] and circumventing the defense of the statute of limitations.

School boards, as potential plaintiffs against asbestos manufacturers,[59/] face these problems as well. For example, in the recent decision in County of Johnson, Tennessee

v. United States Gypsum Company,[60/] the school district brought a civil action based upon the construction of the county high school in which asbestos products were applied. Subsequent to the construction of the school in 1965-66, the school district removed the asbestos material and transported students to other facilities. To recover the costs for the expenses involved, the school district commenced an action against asbestos manufacturers for negligence, fraud, strict product liability, breach of warranty, nuisance and under local state statutes. The Court dismissed the claims based upon breach of warranty and nuisance, while sustaining the negligence, strict product liability and fraud claims, although all of the claims arose under the same set of facts. To the extent such actions are not time barred, the extent to which school districts fail to inspect, sample, analyze, and remove or enclose suspected asbestos materials in their school buildings will serve to effect the prospects of success in any such lawsuit.

In addition, there are gaps in the statutory protection. For example, the School Asbestos Act fails to provide adequate protection to everyone who occupies a school building constructed with asbestos. Excluded from protection are persons who occupy those school buildings which are not used by a school district as a public school; only buildings used as public schools need comply with the School Asbestos Act.[61/] This omission is not without significance. School buildings may be leased by school districts for such purposes as youth and civic programs, adult education programs, and

handicapped children programs, and thereby be excluded from compliance under the statute. In recent years, especially given the overall decline in school population within many New York communities and the desire of school districts to receive some revenues from the vacant school buildings, such programs have increasingly replaced elementary and secondary school programs in school districts. Nevertheless, under the School Asbestos Act, school districts, as landlords, are not presently required by law to correct the asbestos problem in school buildings which house these programs. From the standpoint of the participants in these programs, such protection is no less needed or warranted.

A further wrinkle in achieving satisfactory compliance lies in the problem that the existing standards and testing procedures for asbestos in the workplace, as developed by the Occupational Safety and Health Administration ("OSHA"), are not fully applicable to school buildings. For example, in the school environment, the EPA has determined that it is "virtually impossible" to establish exposure potential using standard air sampling techniques.[62/] Additionally, the OSHA workplace air concentration levels are inapplicable to the school setting.[63/] In fact, the EPA has concluded that "[c]omparing air levels in school buildings to the Federal occupational standards is a totally ineffective method of determining whether an exposure problem exists."[64/] Thus, local school districts seeking to hire competent experts for inspection and removal must take care that the inspection,

removal, encapsulation and enclosure of friable asbestos materials is performed by contractors knowledgable of the special situation which is presented in school buildings and the differences which exist from OHSA asbestos regulations.

The absence of an effective solution to date for the problem of asbestos in school buildings is particularly acute in light of the suspect nature of the basic assumption under which the federal EPA has operated. Thus, the Hazard Detection and Control Act requires merely that a school inspect for asbestos hazards and report the findings to parent-teacher groups.[65/] It was the EPA's expectation that, once a school was inspected and the dangers reported to parent-teacher associations, parents would demand corrective action to protect their children.[66/] That expectation, however, presumes the existence of available funds to pay for the inspection and removal of friable asbestos materials. In the absence of funding, however, only the affluent school districts may take the required steps. This has been borne out by a January 1984 internal EPA report which found that clean-up action was taken in most cases only in the "wealthy" school districts--i.e., "where costs will not impose a burden on taxpayers."[67/] According to that EPA report, of the 2,632 schools inspected in which asbestos has been found, only 499 (19%) had prepared plans to deal with the problem.[68/] As it is, the EPA reports that two out of every three schools nationwide have failed to comply fully with the existing rules requiring the identification and reporting on asbestos problems in the school.[69/]

These shocking statistics of non-compliance, which fairly leap out of the reports, are all the more acute when it is realized that the local school districts are obviously concerned with the well-being of their children in the schools. Why then is the level of compliance so low? The answer, it is submitted, is basic economics: there is simply insufficient funding available. Despite the impressive tone of the federal statute, the fact is that the Department of Education and Congress failed to take advantage of the Asbestos Hazards Control Loan Program, discussed above. Remarkable as it may seem, the Department of Education failed to request money for this program and Congress failed to appropriate funds for the loan program.[70/] Reaction by school administrators to the failure to provide funding has been critical. The Executive Director of the American Association of Schhol Administrators has characterized the absence of federal funding as "a blatant disregard for human life.[71/] Without the funding for inspection, removal and encapsulation, the beleaguered school districts have largely ignored the statute out of economic necessity. This failure in financial aid, more than anything else, has caused school districts to look the other way and not take corrective measures necessary for the safety of the school children. The reluctance of the federal government to devise and fund a national solution to a recognized national problem only confuses the process as state and local officials continue to await funding.[72/]

Prospective Remedies

One method by which school districts may seek to be compensated for the high cost involved in combating the asbestos problem and undertaking necessary testing and corrective action is to seek relief from asbestos manufacturers. Presently, a federal class action lawsuit seeking to recover such costs has been filed in the Eastern District of Pennsylvania on behalf of all elementary and secondary educational facilities against known asbestos manufacturers.[73/] However, to expect such uncertain and time-consuming legal actions to provide a comprehensive solution to beleagured school districts is premature at best and a poor substitute for federal funding for the cost of undertaking the necessary corrective action.

In addition, plaintiffs in a suit brought against asbestos manufacturers may be denied recovery on the basis of non-compliance with the applicable statute of limitations. In general, plaintiffs seeking damages arising from exposure to hazardous materials such as asbestos must commence their lawsuit within a certain time of their exposure to the toxic substances. However, since illnesses resulting from exposure to asbestos invariably develop over a prolonged period of time, plaintiffs are often precluded from suing. In addition, the problem of establishing causation is always present as a considerable problem in toxic tort private actions.

However, many state legislatures are acting to address the obvious inequities associated with the statute of limitations obstacle. For example, the New York State Legislature is currently considering proposed legislation that would enable people exposed to toxic substances such as asbestos to bring a lawsuit within two years of the date the victim discovered or "reasonably" should have discovered the illness or injury.[74/] Consequently, any remedy based upon litigation must consider the ramifications of the statute of limitations defense.

Another prospective remedy relating to legislative action besides amendment of the applicable statute of limitations is the creation of a "Superfund" that would serve as a prime source of compensation to persons injured as a result of exposure to asbestos. Indeed, such legislative action is not without precedent, as evidenced by the Congressional enactment of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (the "CERCLA" or "Superfund").[75/] In providing for the liability of persons responsible for releases of hazardous waste at disposal sites, Congress created in CERCLA a $600 million, four-year Hazardous Waste Response Fund, drawn equally from industry-based fees and federal appropriations, that served to compensate victims of exposure to hazardous wastes.

By relying upon CERCLA as an appropriate analogy, state and local school boards, as well as parents of schoolchildren, could lobby for Congressional enactment of a

similar "Superfund" that would provide funds not only to facilitate detection and control of asbestos in schools, but also to compensate people injured as a result of exposure to asbestos in school buildings. Although such legislation would require effective lobbying efforts and much time, it would provide a national source of compensation and avoid the vagaries of litigation.

Indeed, even though Congress may be hesitant to enact such potentially costly legislation in these times of enormous budget deficits, it can be argued that such a "Superfund" could be comprised principally of revenues in the form of taxes upon major asbestos manufacturers in the country. Finally, as evident from the relatively quick passage of the Hazard Detection and Control Act (albeit without the all-important funding), Congress apparently is sensitive to some degree to the mounting public concern over asbestos in schools.

For example, in 1981 Congress debated, but did not enact, a bill, introduced by Senator Gary Hart, that would have established a fund to compensate asbestos victims. Senator Hart proposed that the fund be comprised of contributions from asbestos manufacturers, tobacco producers, as well as federal appropriations. Although Senator Hart's proposed legislation would certainly aid existing asbestos victims, it does not address the next potential generations of victims to come, namely the children now in or entering the public school system. While this bill did not gain passage, the members of Congress are sufficiently attuned to their constituents that a

widespread lobbying effort could conceivably result in a "Superfund" designed to combat the problem of asbestos in schools.

Certainly, more stringent rules are necessary to protect school children and others from the dangers of asbestos in school buildings. Currently, the EPA is considering a sharp turn in federal policy in order to develop a new aggressive strategy, including the enactment of mandatory requirements, as opposed to the present voluntary guidelines, governing the clean-up and removal of asbestos insulation.[76/] In addition, the new policy also contemplates the filing of civil actions by the EPA against school districts which do not comply with regulations regarding the inspection and assessment of school buildings containing asbestos materials.[77/] What the new policy does not include, however, is a requirement for removal of hazardous friable asbestos materials, or the much needed funding for the inspection and removal of asbestos, despite the enabling legislation which foresaw its application and the demonstrated inability of local school districts to shoulder the financial load without federal assistance. Without that funding, an EPA hard-line approach cannot be expected to achieve the desired result of statutory compliance.

Conclusion

Over the past several years, society has increasingly recognized the health problems associated with the past traditional use of asbestos in constructing school buildings.

Although once viewed as a relatively cheap and effective insulating material, asbestos is presently recognized as a carcinogen, posing grave dangers to anyone exposed to it. In particular, asbestos in school buildings threatens the future health of children who, because of their prolonged exposure to asbestos during their school years, have a greater lifetime risk than adults in developing asbestos-related diseases. Fundamentally, the gravity of the problem for such defenseless victims compels the conclusion that a viable solution, and not merely a cosmetic notion, be devised and implemented without further delay, to prevent the harm which will continue to evidence itself years from now.[78/]

The legislation enacted to address the health dangers generally requires the inspection of the harmful asbestos material. However, because local school districts often cannot afford to pay for such expensive corrective measures and federal funding has been noticeably absent, compliance with both the federal and state statutes remains disappointingly--but not unexpectedly--low. And, as it is, the federal statute does not mandate removal or encapsulation of hazardous materials.

In addition, New York's School Asbestos Act fails to provide adequate protection to individuals who occupy school buildings not used as public schools. Consequently, that statute's remedial scope is too narrow.

Thus, it is evident that alternative solutions must be formulated and pursued promptly, specifically, making

available federal funding for asbestos inspection and mandatory removal.[79/] In addition, a critical measure may be the federal EPA's role in enforcing administrative rules governing the clean-up of asbestos materials. Recently, by imposing hefty fines on two local school districts for noncompliance with such federal rules, the EPA publicly highlighted its new aggressive strategy.[80/] Moreover, in order to improve the compliance rate among local school districts, the EPA has now proposed fines in excess of $360,000 against sixteen school districts found to be in violation of Federal regulations requiring local school officials to inspect and report on asbestos in schools.[81/] Long overdue, this approach, together with the badly needed federal funding and mandatory remedial action, may represent the type of "carrot and stick" approach necessary for a realistic resolution of the continuing health risks posed by asbestos in school buildings.

1/ Office of Toxic Substances, U.S. Envtl. Protection Agency, Asbestos Containing Materials in School Buildings: Part 1 at p. 7 (1979) (the "1979 EPA Report Part 1"); 20 U.S.C. §3601(a)(4) (Supp. 1983); N.Y. Education Law §431(1)(a) (McKinney Supp. 1983-84).

2/ The word "asbestos" itself, of Greek origin, means "not extinguished", thus indicating its prominent physical characterization of being resistant to fire. Webster's New Collegiate Dictionary, p. 64 (1974 ed.).

3/ The University of the State of New York, Guidance Document for Control and Abatement of Asbestos Conditions in Public Schools 55 (1980) (the "N.Y.S. Guidance Report").

4/ The 1979 EPA Report Part 1, supra, at p. 2.

5/ Id. at p. 2.

6/ Id. at p. 3; Office of Pesticide and Toxic Substances, U.S. Envtl. Protection Agency, Guidance for Controlling Friable Asbestos-Containing Materials in Buildings 2-1 (1983) (the "1983 EPA Study").

7/ The N.Y.S. Guidance Report, supra, at p. 2.

8/ The 1983 EPA Study, supra, at p. 2-1; the 1979 EPA Report Part 1, supra, at p. 7.

9/ The N.Y.S. Guidance Report, supra, at pp. 2-3; the 1979 EPA Report Part 1, supra, at p. 3; 47 Fed. Reg. 23361 (May 27, 1982).

10/ The 1983 EPA Study, supra, at p. 1-1; the N.Y.S. Guidance Report, supra, at p. 56; the 1979 EPA Report Part 1, supra, at p. 2; Office of Toxic Substances, U.S. Envtl. Protection Agency, Asbestos-Containing Materials in School Buildings: Part 2 I-2-11--I-2-13 (1979) (the "1979 EPA Report Part 2"); N.Y. Education Law §431(1)(b) (McKinney Supp. 1983-84).

11/ The 1983 EPA Study, supra, at p. 1-A; the N.Y.S. Guidance Report, supra, at p. 56; 20 U.S.C. §3601(a)(2) (Supp. 1983).

12/ The 1979 EPA Report Part 1, supra, at p. 1; the 1979 EPA Report Part 2, supra, at pp. I-1-1--I-1-2.

13/ The Attorney General's Asbestos Liability Report to The Congress, Department of Justice, Pursuant to Section 8(b) of the Asbestos School Hazard Detection and Control Act of 1980 (September 21, 1981) ("The Attorney General's Report") at pp. 52-54.

As noted in testimony before the House of Representatives Subcommittee on Elementary, Secondary and Vocational Education Oversight Hearings on Asbestos School Hazards:

> "Children are more likely than adults to survive sufficiently long for the carcinogenic effects of asbestos to be manifested. The lagtime associated with the induction of mesothelioma is typically between 35 and 50 years. The lagtime for cancer is between 20 and 30 years. Induced neoplasm in school-age children exposed to asbestos. . .can be expected to manifest itself when these individuals reach middle age.
>
> In addition, many school children smoke or will smoke cigarettes. . . . As noted earlier, Selikoff and his co-workers have reported that workers who smoke and who are occupationally exposed to asbestos has 92 times the risk of dying of lung cancer than do workers who did not smoke and have not been exposed to asbestos. Asbestos workers who smoked had eight times the lung cancer risk of other smokers.
>
> In addition to thise factors, children, because of physiological characteristics and activity levels, are at a higher risk than adults to the hazards of airborne carcinogens such as asbestos. Children have a higher rate of air exchange and metabolism than adults and consequently exchange a relatively greater volume of air. Thus, per unit of body weight, children breather more air than adults....
>
> Added to this normal difference in air exchange rates is the fact that children are more active than adults. As the level of activity rises, so does the rate of

exchange in the lungs--roughly in an exponential manner. . . . Moreover, such physical activity in children is often associated with mouth breathing and consequently with a loss of the body's normal nasal filtering capacity. Further, because children are shorter than adults, they are more likely to come in contact with asbestos dust that gets stirred up from the floor." Oversight Hearings on Asbestos Health Hazards to School-Children: Hearings on H.R. 1435 and H.R. 1524 Before the Subcomm. on Elementary, Secondary and Vocational Education, 96th Cong., 1st Sess. 298-300 (1979).

14/ N.Y. Education Law §431(1)(c) (McKinney Supp. 1983-84).

15/ The 1979 EPA Report Part 1, supra, at p. 1.

16/ The 1983 EPA Study, supra, at pp. 1-2.

17/ Id.

18/ Id.

19/ The duration of exposure is also a function of the "life" of those school buildings constructed during the years 1945 through 1973, when friable asbestos-containing materials were most likely to be used in school buildings. A 50-year lifetime estimate for such school buildings has been used as a rule of thumb. Support Documents for Friable Asbestos- Containing Materials in School Buildings, Office of Toxic Substances, U.S. Envtl. Protection Agency, January 1982 ("Support Documents") at p. 14.

20/ See, e.g., N.Y. Education Law §431(1)(e) (McKinney Supp. 1983-1984).

21/ S. Rep. No. 96-710, 96th Cong., 2d Sess. 7 (1980).

22/ Support Documents, supra, at p.

23/ Id.

24/ As recently stated by Dr. Irving J. Selikoff, Director of the Environmental Sciences Laboratory, Mount Sinai School of Medicine of the City of New York:

> "There has been much scientific interest in recent years concerning the concept that carcinogenic agents may either initiate the cancer process or, once initiated by other agents, promote its development. Asbestos seems to do both, according to circumstances. Thus, for lung cancer, the data suggest that it acts as a promoter, multiplying the background risk at each attained age. A 50-year old individual has a much greater background risk of lung cancer than, let us say, one who is 20. Asbestos, in each, multiplies that risk. It therefore does not achieve very much to restrict hiring to older workers, in the hope that latency would give them a very long life before lung cancer might strike. Two latencies have to be considered--background exposure and asbestos. This would apply, for example, to teachers in asbestos-laden schools. Their risk depends upon their age as well as their prior asbestos exposure. A 55-year-old teacher with only 10 years in such a school nevertheless has important risk." Office of Public Affairs, U.S. Envtl. Protection Agency, Twenty Lessons From Asbestos, ¶11, EPA Journal (May 1984) ("Twenty Lessons From Asbestos").

25/ U.S. is Considering Rules to Clean Up Asbestos in Schools, Wall Street Journal, February 20, 1984 at p. 20, col. 3.

The EPA reported:

> "The 8,600 public schools which EPA estimates contain friable asbestos-containing material employ over 17,000 custodians and other maintenance personnel. These custodians sweep areas containing friable asbestos. They clean and dust in these areas; they change lights in ceilings covered with friable asbestos-containing materials; they undertake minor repairs and renovations. Without knowledge that these

areas contain asbestos, these custodians will continue to undertake normal maintenance activities with no protection against unnecessary exposures, and may consequently risk serious injuries as a result.

Moreover, all of these activities which cause peak exposures further contaminate the building and increase the prevailing concentrations. Sweeping, dusting, and cleaning suspend previously released fibers and disperse them throughout the building. Minor repairs and disturbances to the friable asbestos-containing materials release additional fibers. Both types of activities will increase prevalent concentrations which, in turn, will increase the risk to the larger population of children, teachers, and school administrators who occupy the buildings." 47 Fed. Reg. 23364-23365 (May 27, 1982).

26/ The 1983 EPA Study, supra, at p. 1-1; the 1979 EPA Report Part 1, supra, at p. 1; 20 U.S.C. §3601(a)(3) (Supp. 1983) ("Medical science has not established any minimum level of exposure to asbestos fibers which is considered to be safe to individuals exposed to the fibers."); N.Y. Education Law §431(1)(c) (McKinney Supp. 1983-84) ("precise scientific data as to the levels at which asbestos materials constitute a hazard to health is not yet available and may not be available for many years to come because of the long period of time which elapses between the onset of exposure and the appearance of clinically detectable illnesses.").

27/ N.Y. Education Law §430 et seq. (McKinney Supp. 1983-84).

28/ N.Y. Education Law §431(2) (McKinney Supp. 1983-84) provides:

> "2. Therefore it is the purpose of this article to cause the establishment of a state plan for identifying and eliminating those asbestos materials which constitute imminent health hazards in the schools by providing for:

(a) a determination of the extent and condition of those asbestos materials that constitute an imminent health hazard in schools to students, school personnel, parents and visitors to such schools; and

(b) the safe, orderly and expeditious elimination of asbestos conditions that pose an imminent hazard to health by containment, removal, or other methods."

29/ N.Y. Education Law §433(1) (McKinney Supp. 1983-84).

30/ N.Y. Education Law §433(2) (McKinney Supp. 1983-84).

31/ N.Y. Education Law §433(3) (McKinney Supp. 1983-84).

32/ N.Y. Education Law §433(4) (McKinney Supp. 1983-84).

33/ N.Y. Education Law §433(5) (McKinney Supp. 1983-84).

34/ N.Y. Education Law §433(6) (McKinney Supp. 1983-84).

35/ N.Y. Education Law §433(7) (McKinney Supp. 1983-84).

36/ N.Y. Education Law §433(8) (McKinney Supp. 1983-84).

37/ N.Y. Education Law §433(9) (McKinney Supp. 1983-84).

38/ N.Y. Education Law §434(1) (McKinney Supp. 1983-84).

39/ N.Y. Education Law §434(2) and (3) (McKinney Supp. 1983-84).

40/ N.Y. Education Law §434(4) (McKinney Supp. 1983-84).

41/ 20 U.S.C. §3601 et seq. (Supp. 1983).

42/ 20 U.S.C. §3601(a)(6) (Supp. 1983).

43/ 20 U.S.C. §3602(e).

44/ 20 U.S.C. §3603 (Supp. 1983)

45/ 20 U.S.C. §3604 (Supp. 1983).

46/ 20 U.S.C. §3605 (Supp. 1983).

47/ 20 U.S.C. §3608 (Supp. 1983.

48/ S.Rep. No. 710, 96th Cong., 2d Sess. 7 (1980).

49/ Id.

50/ 20 U.S.C. §3605 (Supp. 1983).

51/ 20 U.S.C. §3605 (a)(2) (Supp. 1983) provides:

> "(2) The Secretary may make loans under this section to local educational agencies in an amount equal to 50 percent of the costs of carrying out projects for--
>
> (A) the containment or removal of any materials containing asbestos in schools buildings in which such materials pose an imminent hazard to the health and safety of children or employees;
>
> (B) the replacement of the asbestos materials removed from school buildings with other appropriate building materials; and
>
> (C) making repairs which the Secretary determines to be necessary to restore school buildings to conditions comparable to those existing before containment or removal activities were undertaken under subparagraph (A).

Loans may be made under this section only for projects affecting more than 2,500 square feet of surface and in which the asbestos material to be contained or removed consists of a minimun asbestos level, as determined by the Secretary under section 3606(a)(2) of this title."

52/ As noted by the House of Representatives Committee on Education and Labor in support of the Hazard Detection and Control Act:

> "Not all local educational agencies have available the resources to pay for the full costs of these programs, regardless of the seriousness of the hazard. Superintendent Holzman from Cinnaminson Township, J.J. testified that to do the necessary removal work in his district would cost $500 to $1,000 per individual residential taxpayer. Superintendent E.D. Grigsby of Floyd County, Ky., testified that his district already has a deficit and simply cannot raise the funds necessary to pay for correcting a serious asbestos situation. With several school districts having difficulty supporting even a basic educational program in the face of inflation, an unexpected expenditure of this nature would in many areas mean a reduction in educational services.
>
> In addition, as Dr. August Steinhilber, Assistant Executive Director, National School Boards Association, pointed out, some asbestos abatement projects will involve capital expenditures. If this is the case, the district will probably have to seek a bond issue to raise local money. In recent years, taxpayers have increasingly turned down new obligations of this sort. And in some States and localities, new tax limitation measures may make this rout impossible.
>
> The committee feels that given the potential seriousness of asbestos hazards to the health of our nation's school children

Federal funds ought to be made available for inspecting and controlling asbestos in the schools. Since very few people were aware of the potential hazards of asbestos in schools until quite recently, there would have been no way for districts to anticipate these expenditures in their school budgets. No district ought to be forced to make the unhappy choice of whether to impair a child educationally by cutting back on programs, or to impair the child's health through continued exposure to asbestos. By the same token, no district should be left in the position of knowing a hazard exists without being able to correct it.

However, the Committee does believe that many districts and private schools do have the capability to support part of the costs of these projects. Therefore, a matching requirement of 50 percent Federal funds, 50 percent State or local, is proposed. But for those poorer school districts and private schools which would not otherwise be able to undertake these projects the Secretary of HEW is given the authority in the legislation to increase the Federal share.

The lack of any asbestos program in many States and the inadequacy of programs in other ones also suggests that Federal assistance is warranted. According to the EPA telephone survey, 25 States have inspected less than one percent of their schools, and only six States have inspected more than 20 percent. And, according to Mr. Leslie Dach of the Environmental Defense Fund, many States which purport to have an active asbestos control program have done no more than initially notify school districts of the problem. According to Dr. Steinhilber of the National School Boards Association,

> The States have been slow to move and tentative in their action in this area. Their reaction has been uneven and in some instances, counterproductive.

State officials testified that they also face budget problems, which make funding of comprehensive removal programs difficult. Both State and local officials reported a reluctance to undertake remedial action without Federal guidance and assistance." H. Rep. No. 96-197 (May 15, 1979).

The Senate Committee on Labor and Human Resources reported similarly:

"The Committee recognizes. . .that anticipated costs have precluded hundreds of districts from undertaking detection abatement programs. At a time when districts are operating on 'bare-bone' budgets for the most basic and streamlined education programs, expenditures necessary to. remove a hazard of this nature and magnitude could result in a diminution of educational services if additional assistance is not available.

In New York, for example, and many other states, local school districts must go to the voters to seek bond issues and borrowing authority to raise funds for capital expenditures such as those required to remove or contain asbestos hazards. Such obligations have been turned down with increasing frequency, regardless of need or merit. Furthermore, some states and localities are constrained by statute from borrowing for such projects without first retiring other indebtedness, or cannot increase their tax rate to provide such funds.

These financial constraints, the Committee finds, are precluding many districts from taking corrective action at a time when public concern and uncertainty regarding asbestos hazards to school children is growing. In PS 185/208, for example, Ms. Helene Brathwaite, Chairperson of the Parents' Committee of PS 185/208, commenced New York City's inspection and abatement program when she noticed deteriorating friable acoustical tile in the school building, and worked swiftly wit the District Superintendent and School Board to ensure that the material was inspected and

tested and, when asbestos material was identified, to ensure proper corrective action which required closing of the school building to conduct containment activities.

While concerted efforts of the parents, teachers, administrators, and local school officials effected necessary corrective action in the case of this particular school, the Committee believes that many districts may be reluctant to take such action due to the educational costs involved in such dislocation, the fear and misunderstanding generated by the acknowledged presence of potentially hazardous materials the health effects of which may not be readily apparent and the financial costs which further strain the already pressed fiscal limits of school districts." S. Rep. No. 710, 96th Cong., 2d Sess. 9 (1980).

53/ Huge Cost of Removing Asbestos Daunts Schools, N.Y. Times, October 5, 1983, at A21, col. 1.

54/ Id.; U.S. Dep't. of Educ., Asbestos in the Schools - A Report to Congress, pp. 2, 20, 27 (1983) ("Asbestos in Schools"); Study Cites Lack of E.P.A. Action on Asbestos Peril in U.S. Schools, N.Y. Times, February 1, 1984, at A1, col. 1, A17, col. 1.

55/ Asbestos in Schools, supra, at p. 20.

56/ N.Y. St. Dep't of Educ., Progress Report to the Governor and Legislature on Asbestos Conditions in New York State Public Schools 3 (1983). This estimate is based upon an average cost of $7 per square foot of asbestos material which is subject to removal, encapsulation, or containment. Id.

57/ As noted in Huge Costs of Removing Asbestos Daunts Schools, N.Y. Times, October 5, 1983 at A21, cols. 1-4:

"It is widely believed that the cost of asbestos abatement programs is one of the main reasons so many districts have not complied. Many smaller districts fear they do not have the resources to follow through with remedial actions and are therefore hesitant to arouse fears without being in a position to deal with the problem.

Most school districts are already facing budget problems as a result of earlier cutbacks in state and Federal money. In Jackson, for example, voters rejected bond issues twice in the past eight months for repair and construction programs."

58/ Asbestos cases typically allege injuries that are often difficult to identify with certainty and are arguably caused by a variety of other factors (including smoking) that may produce the same pathology. See J. Kakalik, P. Ebener, W. Felstiner, M. Shanley, Costs of Asbestos Litigation, The Institute for Civil Justice, The Rand Corporation, No. R-3042-ICS (July 1983) at p. 3.

59/ In those actions where recovery is sought soley for the costs incurred by reason of inspecting, removing or encapsulating asbestos materials, school boards basing recovery on strict products liability may be foreclosed from recovering such economic loss. See Seely v. White Motor Co., 63 Cal. 2d 9, 45 Cal. Rptr. 17, 403 P.2d 145 (1965).

60/ 580 F.Supp. 284 (E.D. Tenn. 1984).

61/ N.Y. Education Law §432(4) (McKinney Supp. 1983-84).

62/ The 1979 EPA Report Part 1, supra, at p. 14.

63/ Id.

64/ Id.

65/ 20 U.S.C. §3601 et. seq. (Supp. 1983); Schools Lagging on Asbestos Clean-Up Efforts, N.Y. Times, February 5, 1984 at E7, col. 1.

66/ Study Cites Lack of E.P.A. Action On Asbestos Peril in U.S. Schools, N.Y. Times, February 1, 1984, at A1, col. 1, A17, col. 1; "[The EPA] has concluded that identifying hazards will provide local school districts with enough information to take corrective action on their own." 46 Fed. Reg. 23,726 (April 27, 1981. This reliance on presumed voluntary compliance is also evidenced in the Department of Education's 1983 Report to Congress:

> "Since the preserce of asbestos in schools is a potential health hazard, particularly for children, it is a problem which causes public concern. This concern provides a strong motivation for voluntary compliance." Asbestos in Schools, supra, at p. 21.

67/ Study Cites Lack of E.P.A. Action on Asbestos Peril in U.S. Schools, N.Y. Times, February 1, 1984 at A1, col. 1, A17, col. 1; Schools Lagging On Asbestos Cleanup Efforts, N.Y. Times, February 5, 1984 at E7, col. 1.

68/ Id.

69/ Schools in U.S. Lag on Asbestos Peril, N.Y. Times, September 25, 1983, at A1, col. 1.

70/ Asbestos in Schools, supra, at 3; Study Cites Lack of E.P.A. Action On Asbestos Peril in U.S. Schools, N.Y. Times, February 1, 1984, at A1, col. 1, A17, col. 1.

71/ Study Cites Lack of E.P.A. Action on Asbestos Peril in U.S. Schools, N.Y. Times, February 1, 1984, at A1, col. 1, A17, col. 1. See also McCormick, Asbestos: The Clock is Ticking in Your Schools, and Inaction Could be Devastating, American School Board Journal at pp. 33-34 (April 1984):

> "Without a doubt, asbestos is a financial burden for school systems. At President Reagan's behest, Congress repeatedly has refused to provide funds to accompany the federal regulations it requires schools to

obey. Part of the Asbestos School Hazard Detection and Control Act of 1980, for example, called for $700 million in grants and interest-free loans to help state and local education agencies identify and correct asbestos hazards in schools; no appropriations were made. Don't count on E.P.A. for changes in the funding situation either: Officials there say they have no plans to request or provide money for school systems to deal with asbestos problems."

72/ An example of the dichotomy in the federal non-resolution to the problem is found in the recommendations contained in The Attorney General's Report, supra, at pp. iv-vi:

> "Abatement of school asbestos hazards currently rests in the hands of local and state government, since Congress has not appropriated any funds under the [Hazard Detection and Control] Act to make federal grants and loans.
>
> * * *
>
> Though the problem of friable asbestos in the schools is in one sense a national one, the absence of a federal law assigning liability suggests that a better solution is at the local or state level. The primary goal is to remedy hazardous situations as quickly as possible. Illusory hopes of federal assistance can obstruct rather than aid attainment of this goal."

73/ School District of Lancaster, et al. v. Lake Asbestos of Quebec, Ltd., et al., Civ. No. 83-0268 (E.D. Pa. filed February 10, 1983).

74/ Toxic Substance Bill Clears a Hurdle, N.Y. Times, May 20, 1984 at A-38, col. 1

75/ 42 U.S.C. §9601, et. seq. (1980).

76/ U.S. Is Considering Rules to Clean Up Asbestos in Schools, Wall Street Journal, February 24, 1984, at 20, col. 3.

77/ School Districts Face Suits Over Asbestos Pollution, Wall Street Journal, March 5, 1984, at 15, col. 2.

78/

> "The disease and deaths now being experienced are the result of explsures in the 1940s and 1950s, with the 1960s beginning to make their contributions, the legacy of our mistakes of the past. Current expcsures will not show their effects until the year 2010 and subsequently." Twenty Lessons from Asbestos, supra, at ¶1.

79/ The costs associated with the abatement of asbestos vary directly with the procedures used. Although removal is, at least initially, the most expensive method, it is alos the most desirable. Asbestos in Schools, supra, at pp. 1-2; the 1979 EPA Report Part 1, supra, at pp. 14-17. Obviously, less desirable stop-gap methods will be more attractive to cost-conscious local school districts in the absence of adequate federal funding.

80/ Getting Tough On Asbestos, N.Y. Times, March 18, 1984, at E7, col. 2; School Districts Face Suits over Asbestos Pollution, Wall Street Journal, March 5, 1984 at p. 15, col. 2; Federal Complaint on Asbestos Filed, N.Y. Times, April 10, 1984 at p. B2, col. 6 (Waterbury, Connecticut public schools). In addition, a high school in Dutchess County, New York was closed in April 1984 for the duration of the academic year on account of high levels of asbestos fibers resulting from the school's ceiling tiles. Asbestos Findings Close High School, N.Y. Times, April 4, 1984 at B5, col. 2-3.

81/ 35 School Boards Sue to Force Manufacturers to Remove Asbestos, N.Y. Times, May 20, 1984 at A-30, col. 1.